REMARKS/DISCUSSION OF ISSUES

By this amendment, Applicant amends claims 1, 4, 6, 9, 11, 13, 15, 17, 19, 21.

Accordingly, claims 1-22 are pending in the application.

Reexamination and reconsideration are respectfully requested in view of the following remarks.

PRELIMINARY COMMENTS

The Final Office Action dated 9 August 2006 states the following on page 7:

> *"Claims 1-22 would be allowable if rewritten or amended to overcome the rejections under 35 USC 112 and double patenting rejections, set forth in this office action."*

Applicant respectfully notes that this is not consistent with the remainder of the Office Action, namely the rejection of claims 1-14 and 19-22 under 35 U.S.C. § 101 (see page 3 and top of page 4 of the Office Action).

The Final Office Action also states the following on page 7:

> *"As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a)."*

Applicant respectfully traverses this statement. Indeed, the Final Office Action dated 9 August 2006 did not indicate ***ANY*** allowable subject matter! This is evident on the Office Action Summary (page 1) which clearly indicates that all of the claims 1-22 are rejected, and that none of the claims are either allowed or objected to.

Indeed, page 5 of the Office Action very clearly states that all of the claims 1-22 are rejected on the grounds of nonstatutory obviousness-type double patenting

over U.S. patent 6,947,960. Furthermore, the undersigned attorney does not see any formal requirements in the Office Action.

35 U.S.C. § 101

The Office Action rejects claims 1-14 and 19-22 under 35 U.S.C. § 101 as allegedly being directed to nonstatutory subject matter, stating variously (and inconsistently) that:

1) "*the claims recite a method for performing a mathematical function*"
2) "*The claimed invention **comprises a plurality of mental steps***"
3) "*the claimed method steps can be practiced mentally in conjunction with pen and paper*," and
4) "*in order for such a **computer-related process** to be statutory, the method claims must either include a step that results: (1) in a physical transformation outside the computer; (2) in a limitation to a practical application, or (3) performed (sic) specific machine/element(s).*"

Applicant respectfully traverses these rejections under 35 U.S.C. § 101 as lacking any basis in fact or law.

At the outset, the rejection itself improperly recharacterizes Applicant's claims – and does so inconsistently! At one point, the Examiner states that Applicant's claims are "mental steps." At another point, the Examiner states that the claims are directed to a "computer-related process." Which is it . . . a mental process, or a computer-related process???

Meanwhile, none of the claims 1-14 recite any computer. They recite a specific process that ***may*** be performed by a computer, but which arguably cannot be performed mentally, as it is not possible to mentally generate a stream of random numbers (and particularly not using a "random number generator" - claim 9).

Additionally, the claims are not directed to a "mathematical function." They are instead directed to a method of determining whether a random number generator

is functioning properly, which includes calculating some statistics regarding the random numbers and comparing the statistics to a set of acceptance criteria. Such a method of determining whether a random number generator is functioning properly is clearly statutory subject matter under 35 U.S.C. § 101.

35 U.S.C. § 101 states that:

> *"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."*

The Office Action admits that claims 1-14 and 19-22 are each directed to a process. There is no allegation in the Office Action that the process is not useful. Indeed, Applicant respectfully submits that the process is very useful for determining when a random number generator is functioning properly, or malfunctioning (e.g., due to excessive heat). The processes of claims 1-14 and 19-22 are not directed to laws of nature, physical phenomena, or abstract ideas . . . nor has it even been alleged that they are!

So how can the useful processes of claims 1-14 and 19-22 possibly be "non-statutory subject matter?"

The Examiner states – without any statutory or case law support whatsoever – that in order for such a "computer-related process" to be statutory, the method claims must either include a step that results: (1) in a physical transformation outside the computer;[1] (2) in a limitation to a practical application, or (3) performed (sic) specific machine/element(s).

Applicant respectfully requests the Examiner to cite something in the statutes or case law that supports this statement, or else withdraw it. Indeed, Applicant respectfully request that the Examiner cite something in the statutes

1 Again, there is no computer recited in claims 1-14.

and/or case law which the Examiner believes provides a basis for rejecting claims 1-14 and 19-22 under 35 U.S.C. § 101, or withdraw the rejections.

Finally, it is noted that claims 4, 11 and 12 all recite concrete operations to be performed based on the determination as to whether the random number generator is functioning properly, but these features have not been addresses by the Examiner.

Therefore, for at least these reasons, Applicant respectfully submits that claims 1-14 and 19-22 are all clearly statutory subject matter under 35 U.S.C. § 101. Accordingly, Applicant respectfully requests that the rejections of claims 1-14 and 19-22 under 35 U.S.C. § 101 all be withdrawn.

35 U.S.C. § 112

The Office Action rejects claims 6, 8, 13, 14, 17, 18 and 21 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

Applicant respectfully traverses those rejections.

As best as Applicant can understand, the Examiner claims that claims 6, 13, 17 and 21 doe not recite an exponential averaging operation.

Applicant respectfully disagrees.

At the outset, it is noted that the Examiner has not maintained that the term "*exponential averaging operation*" is in and of itself indefinite, as there are no 35 U.S.C. § 112 rejections of independent claims 1, 9, 15 or 19 that all use this term.

Furthermore, Applicant has repeatedly insisted that the claims 6, 14, 17 and 21 all properly recite an equation for updating the exponential averaging operation, as such an operation is properly defined in light of the specification. Indeed, the equation ***perfectly*** describes an exponential averaging operation (i.e., an averaging operation where older values have exponentially less weight) and not a "linear function count" as asserted by the Examiner. In this regard, it is noted that old values are multiplied repeatedly by the factor $\left(1-\left(\frac{1}{n}\right)\right)$ where n is >>1, such that over a large number of operations, n, the old values are multiplied by $\left(1-\left(\frac{1}{n}\right)\right)^{n}$

which is known to anyone of skill in the art to approach 1/*e* at the limit, thus yielding an exponential average.

Meanwhile, a claim rejection must be based on objective evidence of record, and cannot be supported merely on subjective belief and unknown authority. See, e.g., M.P.E.P. § 2144.03; In re Lee, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); In re Zerko, 258 F.3d at 1386, 59 USPQ2d at 1697.

Here, the Examiner has failed to provide any definition or interpretation of the recited term "exponential averaging operation" nor to explain why such a definition would exclude the updating operation as recited in claims 6, 14, 17 and 21.

Accordingly, Applicant respectfully submits that all of the claims 6, 8, 13, 14, 17, 18 and 21 are patentable under 35 U.S.C. § 112, second paragraph.

OBVIOUSNESS-TYPE DOUBLE PATENTING

The Office Action rejects claims 1-22 as supposedly being unpatentable over claims 1-21 of U.S. Patent 6,947,960 ("Hars 3").

Applicant respectfully traverses these rejections for at least the following reasons.

At the outset, M.P.E.P. §§ 804(II)(B), 2142, and 2143 describe the requirements for a *prima facie* case of obviousness. The Office Action fails to meet those requirements at all. For example, the Office Action fails to even allege that the claims of Hars 3 teach or suggest all of the claim limitations of any of the claims 1-22 of the present application.

Instead, the Office Action merely presents a table - without any further explanation - comparing one claim of the present application and one claim from Hars 3.

Applicant respectfully submits that this does not meet the requirements for a *prima facie* case of obviousness under M.P.E.P. §§ 804(II)(B), 2142, and 2143.

Furthermore, Applicant affirmatively submits that claims 1-22 of the present application are patentable over the claims 1-21 of Hars 3. Hars 3 claims a method that determines an auto-correlation value of bit sequences generated by a random

number generator. In contrast, the claims of the present application all recite the determination of an average number of occurrences of a logical value using an exponential averaging operation. One of ordinary skill in the art would easily recognize that an average of the number of occurrences of a logical value is substantially independent of the repetitive nature of the sequence of logical values, as determined by the auto-correlation value.

Accordingly, for at least these reasons, Applicant respectfully traverses the Obviousness-Type Double Patenting rejections of claims 1-22, and respectfully requests that these rejections be withdrawn.

CONCLUSION

In view of the foregoing explanations, Applicant respectfully requests that the Examiner reconsider and reexamine the present application, allow claims 1-22 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

VOLENTINE FRANCOS & WHITT, P.L.L.C.

Date: 11 December 2006

By: _____
Kenneth D. Springer
Registration No. 39,843

VOLENTINE FRANCOS & WHITT, P.L.L.C.
11951 Freedom Drive, Suite 1260
Reston, Virginia 20190
Telephone No.: (571) 283.0724
Facsimile No.: (571) 283.0740